

Tennessee Pollution Prevention Partnership Success Story



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Material Reuse Saves Landfill Space

The Member

DENSO Manufacturing Athens Tennessee, Inc. (DMAT), is part of DENSO Corporation's global network of 74 subsidiaries in 29 nations and the fourth largest producer of advanced technology, components and systems for all major automakers. DMAT employs approximately 900 associates. Automotive components and systems produced at the DMAT include the following:

Oxygen sensors, fuel injectors, fuel rails, airflow meters, ignition coils, monolithic carriers and spark plugs.

The Story – Solid waste from a new product

DENSO began manufacturing monolithic carriers in 2003. A monolithic carrier is the ceramic component of the catalytic converter. The monolithic carrier helps clean the vehicle exhaust as it passes through the catalytic converter. The monolithic carrier reduces NOx, hydrocarbons, and carbon monoxide emissions in automotive exhaust.

The monolithic carrier production process involves mixing, extruding, and firing ceramic materials. The process generates a large volume of ceramic wastes in various forms that cannot be reused in the manufacturing process.

New Idea

Class I landfills are required to cover compacted solid waste at the end of each operating day with at least six inches of compacted soil or an alternative approved material. Denso began working with the Waste Connections Meadow Branch Landfill to determine if the ceramic wastes would be suitable as an alternative daily cover. The ceramic wastes were analyzed, evaluated, and determined to be suitable for reuse as alternate daily cover for a local landfill. Meadow Branch Landfill received approval from TDEC to use the ceramic wastes as alternative daily cover.

The Success

The ceramic wastes are now reused as an alternative to topsoil for daily cover. The reuse of the waste ceramic material has reduced the quantity of topsoil the landfill uses for daily cover. This project is a good example of industry, waste disposal companies, and government personnel working together to prevent pollution.

Pollution Prevented

The reuse of the monolithic carrier ceramic scrap as alternate daily cover will prevent over 2,400 tons of landfill waste per year.

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